

ABSTRACT OF THE DISCLOSURE

An optical signal regenerative repeater is provided including at least one first optical 3R repeater based on an optical communication signal pulse, regenerating the optical communication signal pulse. The first optical 3R repeater comprises a first clock extraction unit extracting a clock from the optical communication signal pulse and generating a first optical clock pulse synchronized with the extracted clock. The first optical 3R repeater also comprises a first optical gate, which is opened and closed in accordance with a control light corresponding to the optical communication signal pulse, which receives as a controlled light the first optical clock pulse generated by the first clock extraction unit, and which generates a first regenerated signal pulse corresponding to said optical communication signal pulse. Further, a pulse time width of the control light and the controlled light is different.